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The Economic Impact of Tourism in Montana

Submitted to:

The Montana Department
of Highways

September 30, 1980

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1 The Economic Impact of Travel and Tourism

1.0 INTRODUCTION

The purpose of this study is to define and analyze the economic impact of tourism on Montana's economy. Unlike other industrial sectors such as agriculture and wood products where income and employment data are regularly gathered, the influence of the tourism sector is more difficult to determine. Employment and income data are gathered by type of economic activity and not by the type of customer served. For example, a restaurant serves both in-state as well as out-of-state residents so it is difficult to define whether the employment and income generated by such a firm are serving non-residents (tourists and other travelers) or simply local people. Also, tourism should be considered as a part of the larger travel industry which includes business related trips or just passing through the state. In other words, the latter trip purposes do not constitute tourism but clearly do generate income and employment. Furthermore, it is difficult to assess the nature of travel expenditure for Montana residents. Since no state level origin/destination data are available, it becomes necessary to make certain assumptions concerning what proportion of Montana's travel expenditures are recreational versus driving to work, shopping, etc. As a result some measure of estimation must be employed and all figures regarded as estimates.

The importance of tourism has on occasion been a much debated issue. Until recently no reliable or comprehensive information was available; there has not been a valid survey of year-round tourist expenditures since the 1963-64 study conducted by the Bureau of Business and Economic Research at the University of Montana. A scientific survey was conducted by Montana State University (Department of Economics) in 1975 but did not include full season coverage. Additionally, estimates by the Travel Promotion Unit of the Montana Department of Highways were not documented, i.e., no methodology was available and the figures were generally regarded as imprecise. A certain amount of confusion was also introduced since state-wide employment estimates, from a variety of sources, were from 8,500 to over 30,000 without any clear definitions of what was being measured.[1] Similar variances existed for expenditure and income impacts.

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1. Tourism: Working Paper No. 5, Montana Governor's Office of Commerce and Small Business Development, 1978.

This uncertainty in Montana and in the other states within the Old West Regional Commission led to the 1979-80 Non-resident Travel, Tourism and Recreation Survey which allows a much more meaningful and accurate definition of travel and tourism. The present study utilizes that survey base, Montana road use data, information from the 1977 Census of Transportation and the U. S. Travel Data Center to arrive at an estimate of the overall importance of the industry to Montana in terms of jobs, income, and taxes.

The study contains an overview of the comparative significance of the sector which immediately follows. Chapter 1 also discusses some problems which the industry faces; i.e., poor proximity to population centers combined with rising fuel costs and high seasonality. Chapter 2 provides a description of how the estimates were made and how they can be updated in the future. The Appendix contains all necessary information to update the procedure.

1.1 OVERVIEW OF TRAVEL AND TOURISM

In 1979 approximately 3.5 million visitors came to Montana. They spent nearly 500 million dollars, generating employment for 10,000 Montanans. Resident travel expenditures in 1979 were estimated to be nearly 400 million dollars resulting in a combined expenditure total approaching 1 billion dollars; $172 million dollars in income; and slightly over 20,000 jobs directly related to the travel industry.

The travel industry is comprised of a variety of economic sectors including transportation, retail trade firms such as service stations and eating and drinking establishments, hotels and motels, auto repair and recreation. The travel industry is of course larger than the tourism industry since it includes all forms of travel. Tourism, more narrowly defined, is primarily for pleasure (i.e., recreation and visiting relatives and friends) and is estimated to account for approximately 40 percent of the total travel industry. Tourism, both resident and non-resident provides over 8,000 full and part-time jobs and about 71 million dollars in income. A comparison of the relative sizes of resident and non-resident travel and tourism is shown in Table 1.0 below. Other economic benefits include taxes resulting from travel and tourism. In 1979 this amounted to nearly 23 million dollars, most of which (20 million dollars) resulted from the 8.5 cents per gallon fuel tax. Income tax represented the remainder; approximately 2% of total Montana personal income tax paid in 1979.

Table 1.0

Montana Travel and Tourism

	Employment		Income ($ Millions)	
	Travel	Tourism	Travel	Tourism
Resident	10,143	3,043	$85.9	$25.8
Non-resident	10,185	5,334	86.2	45.1
Total	20,328	8,377	172.1	70.9
FTE adjusted*	16,771	6,911	n/a	n/a

Source: Western Analysis Inc., Helena, Montana

*note: assumes a 33 hour work week in the tourism and travel industry; the average of retail trade and services.

Tables 1.1 and 1.2 provide an indication of the overall economic significance of travel and tourism relative to other economic sectors within Montana. Non-resident travel accounts for 9.4 percent of basic employment and 5.5 percent of basic income in Montana; clearly a very important contribution to the Montana economy. Another way of stating the idea is to say that 9.4 percent of all jobs and 5.5 percent of all income in Montana are provided by non-resident travel expenditures flowing into the state.* (It would be inappropriate to apply a multiplier to resident travel or tourism since no additional dollars are brought into the state but are simply redistributed between Montana counties and cities.)

For point of comparison the non-resident travel sector employs nearly as many workers as the wood products industry

* note: This assumes an income multiplier of 1.84 additional dollars for every dollar of non-resident travel income (Montana Input/Output Tables, Department of Community Affairs) and an employment multiplier of 2.38 additional jobs for every job resulting directly from non-resident travel (Western Analysis, Inc., calculated from 1979 2 digit employment data, Bureau of Economic Analysis, Regional Economic Information System, U. S. Department of Commerce).

TABLE 1.1

Employment Comparison
With Selected Industries

Sector	1979 Employment	Percent of Total Employment
TRAVEL (Total)	20,328	5.6%
Resident Travel	10,143	2.8%
Non-resident travel	10,185	2.8%
TOURISM (Total)	8,377	2.3%
Resident Tourism	3,043	0.8%
Non-resident Tourism	5,334	1.5%
Agriculture	35,250	9.6%
Mining	7,733	2.1%
Wood Products	10,935	3.0%
Other Manufacturing	15,912	4.3%
Trade and Services	134,375	36.7%
Rail	6,795	1.9%
Government	76,785	21.0%
All Other	78,142	21.4%
Total	365,927	100.0%

Source: Regional Economic Information System, U. S. Department of Commerce, Bureau of Economic Analysis

Western Analysis Inc., Helena, Montana

TABLE 1.2

Income Comparison

With Selected Industries

(Millions $)

Sector	1979 Income	Percent of Total Income
TRAVEL (Total)	$172.1	3.9%
Resident Travel	85.9	1.9%
Non-resident Travel	86.2	1.9%
TOURISM (Total)	70.9	1.6%
Resident Tourism	25.8	0.6%
Non-resident Tourism	45.1	1.0%
Agriculture	246.7*	5.6%
Mining	200.1	4.5%
Wood Products	196.4	4.4%
Other Manufacturing	292.3	6.5%
Trade & Services	1527.8	34.4%
Rail	168.6	3.8%
Government	922.1	20.7%
All Other	885.0	19.9%
Total	$4439.0	100.0%

Source: Regional Economic Information System, U. S. Department of Commerce, Bureau of Economic Analysis

Western Analysis Inc., Helena, Montana

*note: Six year average 1974-79 is $291.1 million

and more workers than the entire mining industry. Income impacts are, however, less since wage rates in the travel sector are relatively low as shown in Table 1.3 below.

TABLE 1.3

Montana

Average Hourly Earnings

1979

	Wage Rate	Percent Female
Manufacturing	$8.44	12.5%
Mining	9.37	5.1%
Construction	10.03	9.7%
Transportation & Utilities	7.89	19.0%
Trade	5.40	48.6%
Services	4.19	63.9%
Finance	4.49	65.1%
Tourism (Estimated)	4.07*	63.9%**

*note: Estimate by Western Analysis

**note: Assumed to be the same as Services

Source: Montana Department of Labor and Industry, Research and Analysis Section, Division of Employment Security

Most travel expenditures, including residents, are estimated to take place in a relative handful of counties. For example, nearly 80 percent of total travel employment is found in 10 Montana counties; see Table 1.4. Yellowstone County tops the list in terms of total employment but the effect of travel is less important (judged by the percent of total employment accounted for by travel, i.e., 5.3 percent) than in many other areas. Travel employment is large in the Billings area as a result of the high number of business trips and its proximity to tourist destination centers. Even though Gallatin, Flathead, and Glacier counties have fewer

travel related employees the impact is far greater; judged again by the percent of total employment. For example, 18.2 percent of total employment in Glacier county is as a direct result of travel and tourism.

TABLE 1.4

Top 20 Montana

Travel Counties

1979

County	Travel Employment	Percent of Total Employment	Travel Income $ Million	Cummulative Percent of Total Travel & Tourism
1. Yellowstone	3026	5.3%	$25.6	14.9%
2. Gallatin	2582	13.7%	21.9	27.6%
3. Flathead	2070	9.2%	17.5	37.7%
4. Cascade	1704	4.0%	14.4	46.1%
5. Missoula	1620	4.5%	13.7	54.1%
6. Lewis & Clark	1360	5.9%	11.5	60.8%
7. Silver Bow	1309	7.7%	11.1	67.2%
8. Glacier	1066	18.2%	9.0	72.4%
9. Park	638	10.7%	5.4	75.5%
10. Dawson	542	8.7%	4.6	78.2%
11. Hill	344	3.8%	2.9	79.9%
12. Richland	323	5.5%	2.7	81.5%
13. Custer	312	4.6%	2.6	83.0%
14. Beaverhead	303	8.4%	2.6	84.5%
15. Fergus	303	5.1%	2.6	86.0%
16. Roosevelt	264	5.0%	2.2	87.3%
17. Lincoln	261	3.9%	2.2	88.6%
18. Madison	243	10.2%	2.1	89.8%
19. Phillips	225	9.4%	1.9	90.9%
20. Valley	195	3.7%	1.7	91.9%
All Other	1638	n/a	13.9	100.0%

Source: Western Analysis Inc., Helena, Montana

1.2 CHARACTERISTICS OF THE NON-RESIDENT TRAVELER

As indicated earlier, approximately 3.5 million visitors came to Montana in 1979, down somewhat from previous years. Unfortunately, lack of data on travel by bus, rail, and air makes it difficult to accurately measure changes in non-automobile traffic. Bus, rail and air travel estimates were made for 1979 and are assumed constant for 1977 and 1978. The exact nature of the estimates are explained in Chapter 2.

If the automobile count data are correct, and there is every reason why they should be, the number of non-resident visitors declined about 17 percent between 1977 and 1979, the year of the gas shortage. Although traffic data at the external (border) counters indicate very little change in overall activity, the percent of non-residents counted to total traffic has been falling since 1977. In that year about 29 percent of all travelers were non-resident while in 1979 the figure had declined to 24 percent of the total traffic (excluding commercial trucking and buses) at the border stations. The estimates of non-resident visitors and visitor days are shown below.

TABLE 1.5

Non-Resident Visitors

	1979	1978	1977
Automobile	2,994,752	3,412,429	3,697,421
Bus	109,608	(109,608)*	(109,608)*
Rail	53,381	(71,175)*	(71,175)*
Air	316,365	(316,365)*	(316,365)*
Total Visitors	3,474,106	3,909,577	4,194,569
Visitor Days	16,571,486	18,648,682	20,008,094
Expenditures**	$485,700,000	$546,500,000	$586,400,000

Source: Western Analysis, Inc.

*note: assumed constant
**note: not price adjusted

Estimates of visitor days were based on an average length of stay of 4.77 days and total expenditures were determined based on an average expenditure of $67.70 per day per respondent. Other pertinent data from the recent Old West Regional Commission survey of non-residents in Montana is provided below.

Non-resident Trip Purposes:	Percent of Total
Tourism	29.8%
Visiting Friends & Relatives	22.6%
Business	20.4%
Passing Through	27.3%
	100.0%

Non-resident Average Travel Group:

	Individuals Per Party	Percent of Total Travel
Auto	2.56	86.2%
Air	1.36	9.1%
Bus	1.43	3.2%
Rail	2.21*	1.5%
Average	2.31	100.0%

*not-statistically significant

Non-resident Expenditures Per Party:

	$/Day	Percent
Hotel/Motel	$15.64	23.1%
Campgrounds	1.13	1.7%
Eating/Drinking	16.72	24.7%
Groceries	3.58	5.3%
Sporting Goods	1.17	1.7%
Gas/Service Stations	18.72	27.7%
Amusement/Recreation	3.62	5.4%
Other	7.12	10.5%
Total	$67.70	100.0%

1.3 CHARACTERISTICS OF TOURISM EMPLOYMENT

Tourism and travel employment is concentrated in the retail trade and service sector, particularly motels and hotels. These jobs, which are predominately female (63.9%), tend to pay less (1979 average $4.07/hr.) and are often part-time (1979 average 33 hours per week) in nature (see Table 1.3). The occupational structure of the trade and service industry is shown in the following table based on the 1970 census. More recent Montana specific information will not be available for several years. Although no occupational data are available for the travel or tourism industry specifically, most of the travel related jobs could be classified as unskilled.

Additionally, most travel jobs are not year-round as the following table illustrates. Seasonability is defined as the percent fluctuation of employment over a year (by month) measured against the average level. Data were from the Montana Department of Labor and Industry for the period 1960-1975. Hotels had the highest yearly fluctuation, averaging 55 percent implying a 5.4 month job at 40 hours per week or 18 hours a week for 12 months. Other sectors influenced by travel and tourism are noted. Tourism and a concentration in wood products generally tend to raise county unemployment rates.

Large seasonal variations in employment mean that substantial numbers of workers will be unemployed during part of the year; this results in a high annual rate of unemployment. Outdoor industries such as wood products -- especially logging -- are affected by severe winter weather and spring breakups; tourist-related activities, although increasing in the winter season, still are concentrated in the summer months as a result of both custom and climate. The importance of these two seasonal industries -- wood products and tourism -- in western Montana contributes to the area's high unemployment rate. Figure 1 illustrates the relationship between seasonality of employment and annual rates of unemployment, and clearly shows the tendency toward higher unemployment rates in western Montana counties.

TABLE 1.6

MONTANA EMPLOYMENT/OCCUPATION MATRIX (1970)

													TOURISM			
OCCUPATION	Agriculture	Mining	Construction	Lumber and Wood Products	Primary Metals	Food and Kindred Products	Printing and Publishing	Other Manufacturing	Rail Transportation	Other Transportation	Utilities and Communications	Wholesale Trade	Retail Trade	Finance, Insurance, Real Estate	Private Services	Public Services
Professional, Technical	.047	.079	.070	.017	.056	.030	.119	.078	.016	.028	.128	.031	.017	.031	.271	.429
Managers, Administrators	.006	.037	.120	.049	.007	.126	.114	.088	.110	.093	.086	.218	.177	.213	.070	.105
Sales Workers	.002	.002	.004	.005	.001	.034	.229	.072	.000	.007	.013	.203	.209	.242	.009	.001
Clerical	.017	.046	.053	.039	.040	.097	.162	.071	.166	.154	.305	.188	.123	.433	.150	.259
Craftsmen	.021	.312	.505	.215	.293	.138	.289	.228	.353	.105	.323	.104	.093	.013	.069	.024
Operatives (Exc. Transport)	.005	.395	.065	.328	.357	.354	.064	.315	.041	.028	.028	.051	.075	.003	.044	.005
Transport Operatives	.004	.082	.053	.072	.044	.114	.006	.054	.163	.504	.040	.108	.023	.001	.006	.005
Laborers (Non-Farm)	.014	.028	.122	.265	.164	.083	.008	.072	.132	.063	.061	.079	.043	.012	.013	.010
Farm Workers	.868	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Service Workers	.014	.020	.008	.010	.037	.024	.008	.022	.019	.018	.016	.017	.240	.052	.369	.152

Source: U.S. Department of Commerce, Bureau of Census
Derived by Western Analysis

TABLE 1.7

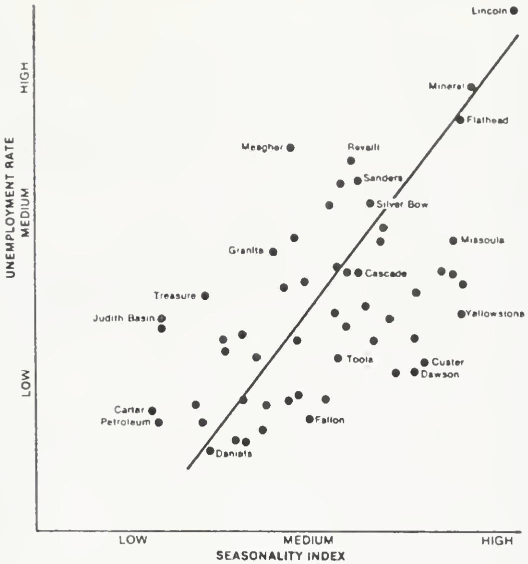
Seasonality Comparison

	Montana Seasonality Index
Lumber and Wood Products	.20
Primary Metals	.15
Other Durables	.19
Food and Kindred Products	.20
Other Non-durable	.07
Metal Mining	.08
Coal and Other Non-metallic	.18
Oil and Gas	.22
Construction	.50
Railroad	.08
Other Transportation	.12
Communications and Utilities	.07
Wholesale Trade	.07
Retail General Merchandise	.23
Food Stores	.10
Automotive	.11
Eating and Drinking	.29
Building, Furniture, Miscellaneous	.14
Finance, Insurance and Real Estate	.06
Hotels	.55
Other Services	.07
Federal Government	.22
State and Local Government	.08

Source: Working Paper No. 3 Unemployment in Montana Governor's Office of Commerce and Small Business Development, 1978.

FIGURE 1.0

UNEMPLOYMENT AND SEASONALITY OF EMPLOYMENT



*SOURCE Western Analysis, Inc.

1.4 CURRENT ISSUES

According to the U. S. Travel Data Center in Washington, D. C. travel costs increased approximately 30 percent between 1977 and 1979. The rate of increase in 1980 is expected to be nearly double the overall rate of inflation with gasoline prices rising nearly 50 percent in the last year. Increasing costs and a concern over fuel availability in 1979 resulted in a substantial downturn in out-of-state as well as in-state travel at primary recreational sites, i.e., yearly traffic at West Yellowstone (1979) declined 11%, Gardiner way down 13%, Big Sky down 7%, and Monida down 8%, etc. The 1980 picture, while better, nevertheless, reflects a growing concern among Americans to travel long-distances to vacation. This will create significant problems for Montana since the state is far-removed from national population centers. On the basis of proximity to national population (see Table 1.8) Montana ranks 43rd. On the basis of proximity (nearness) to regional population centers, Montana ranks last among the 48 states; meaning that Montana would be the most affected state if fuel shortages do ever occur in a major way. Simply stated, Montana would feel the pinch the most.

TABLE 1.8

RANKING OF STATES BY ACCESS TO NATIONAL MARKETS

State	Market Access or Transportaion Cost Index
1 Kentucky	47
2 Indiana	47
3 Tennessee	48
4 Ohio	48
5 Illinois	49
6 West Virginia	49
7 Michigan	49
8 Alabama	51
9 Georgia	51
10 Wisconsin	51
11 Missouri	52
12 South Carolina	52
13 North Carolina	53
14 Mississippi	53
15 Arkansas	54
16 Virginia	54
17 Iowa	55
18 Pennsylvania	55
19 Maryland	56
20 Louisiana	57
21 Delaware	58
22 Minnesota	59
23 Kansas	60
24 Oklahoma	61
25 New Jersey	62
26 New York	62
27 Florida	62
28 Nebraska	63
29 Texas	66
30 Connecticut	67
31 South Dakota	68
32 Vermont	69
33 Rhode Island	72
34 Massachusetts	72
35 New Hampshire	72
36 North Dakota	73
37 Colorado	80
38 Maine	80
39 New Mexico	83
40 Wyoming	86
41 Utah	99
42 Arizona	99
43 MONTANA	100
44 Idaho	109
45 Nevada	112
46 California	122
47 Washington	133
48 Oregon	134

Source: Western Analysis, Inc.

Technical note:

The following algorithm was used to approximate population access for each of the contiguous states.

$$\underset{\text{State}_j}{\text{Market Access}} = \sum_{j=1}^{48} \underset{\text{State}_j}{\text{Population}} \times \underset{\text{State}_i \text{ to State}_j}{\text{Distance from}}$$

All data are from the 1970 Census. Distances are computed between population centroids for each state. This represents linear as opposed to highway or rail distance.

2 ESTIMATION AND UPDATE PROCEDURE

2.0 NON-RESIDENT AUTOMOBILE TRAFFIC

The Planning Division of the Montana Department of Highways regularly collects traffic data, both the total flow and the distribution of traffic by resident and non-resident vehicles. Average daily traffic totals (coming and going) are shown in Table 2.0 below. Internal traffic at selected stations are included in Table 2.1. The location of the counters is shown on Map 1.

The external stations were selected in such a manner as to capture the vast majority of automobiles traveling in Montana. The total count includes all vehicles and does not distinguish between automobiles, trucks, buses, etc. The following steps were used to estimate non-resident traffic. An example is included for one station but the same procedure can be applied to all external counters. See Appendix for additional data.

TABLE 2.0

External Traffic Total

	Average Daily Traffic		
Station	1979	1978	1977
1 Yellowstone	1473	1650	1472
3 Gardiner	872	1002	911
5 Lima	1246	1357	1344
6 Kalispell	3724	3619	3312
11 Superior	3445	3704	3467
18 Wibaux	2052	2192	2008
19 Wolf Point	1997	2241	2063
23 Hardin	4901	4336	4205
24 Rockvale	4695	4397	4684
25 Customs*	1938	2314	2418
26 Idaho Border	1206	1164	1021

Source: Montana Department of Highways

*note: includes Chief Mountain, Piegan, Raymond, Roosville, and Sweet Grass stations collectively.

TABLE 2.1

Internal Traffic

Selected Stations

Station	Average Daily Traffic 1979	1978	1977
4 Big Sky	1321	1418	1352
7 Browning	1502	1403	1490
8 Dupuyer	502	520	542
9 Wolf Creek	2112	2266	2168
12 Ravalli	3952	4026	3879
13 Missoula	5121	5410	5271
14 Butte	8950	9330	8912
15 Livingston	4068	4296	4057
16 Billings	11,113	11,291	10,646
17 Miles City	2848	2693	2640
20 Lewistown	1777	1910	1656

Source: Montana Department of Highways

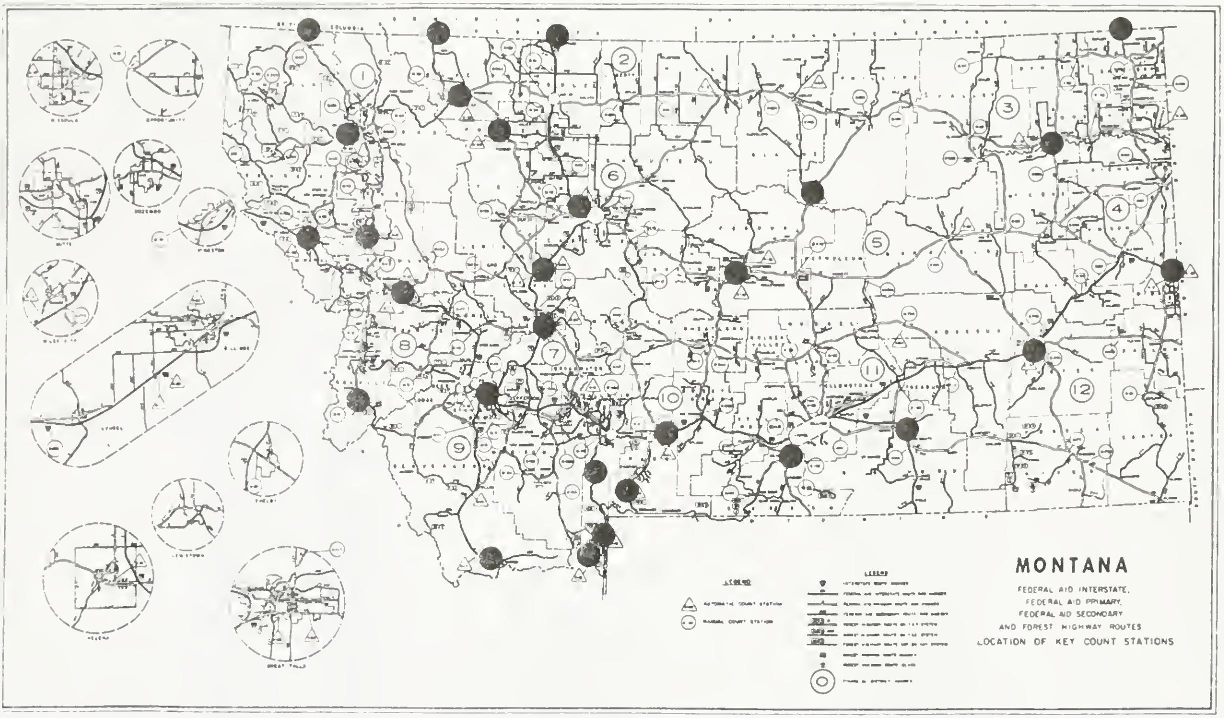
I) Collect average daily traffic (total) by month and determine quarterly average (see Appendix). Using station number 1 (West Yellowstone) as an illustration multiply the quarterly averages by the percent that non-resident traffic (automobiles, campers, and pickups make up of the total; i.e., in the third quarter 64.5 percent of all traffic was non-resident...excluding buses and other commercial traffic.) To compute average daily non-resident traffic for 1979 perform the following calculations.

Total Traffic	x	Percent Non-Resident		
632	x	.183	=	116
1557	x	.351	=	547
2884	x	.645	=	1834
857	x	.222	=	190
		Total	=	2687

Average daily non-resident traffic $= \frac{2687}{4} = 672$

MAP 1

COUNTER LOCATION



II) It was determined on the basis of night and day visual traffic counts that non-residents tend to travel less at night. To adjust for this factor multiply the unadjusted figure by .93; i.e., reduce the total by 7 percent.

Adjusted total
Non-Resident Traffic = 672 x .93 = 625
(Station No. 1
West Yellowstone)

III) The percent of non-resident to resident traffic has been falling (statewide) since 1977. Sufficient data, however, are not available to specifically measure this change at every counter. The following adjustment factors were uniformly applied to all stations. The index values are shown below:

	Index Value
1979	.91
1978	.97
1977	1.12

To estimate the adjusted 1979 figure multiply 625 x .91 = 569. This is the final estimate requiring no further revision. To obtain the yearly total of non-residents passing into Montana at this station multiply 569 x 365 and divide by 2. This yields:

$$\frac{569 \times 365}{2} = 103,843$$

This means that 103,843 non-residents vehicles entered Montana at Station No. 1. Repeat the same steps for all 11 external stations and add to obtain total.

IV) The adjusted sum of all non-resident units counted (1979) equals 1,169,825. To obtain visitor days multiply by 2.56 (the average number per car) and by 4.77 the average number of days spent in Montana. This yields:

$$1,169,825 \times 2.56 \times 4.77 = 14,284,967$$

This means that in 1979 slightly over 14 million non-resident visitor days resulted from automobile traffic flowing into Montana

2.1 NON-RESIDENT AIR TRAFFIC

I) To obtain the 1980 figure for air traffic call the Civil Aeronautics Bureau (415-876-2767) and ask for the count by city. An example is shown below:

	1979
Billings	413,540*(reduce by 25%)
Butte	80,120
Helena	86,780
Bozeman	109,620
Glasgow	4,760
Glendive	1,800
Great Falls	243,370
Missoula	175,900
Kalispell	85,050
Havre	1,350
Lewistown	920
Miles City	1,480
Sidney	2,500
Wolf Point	2,590
West Yellowstone	13,840
Total	1,120,273

*note: reduce by 25% to reflect double counting at Billings.

II) Multiply number of passengers by .2824 (estimate of the percent non-resident...same as automobile traffic) to obtain number of non-residents.

.2824 x 1,120,273 = 316,365

III) Multiply by 4.77 to determine visitor days:

316,365 x 4.77 = 1,509,061

2.2 NON-RESIDENT RAIL TRAFFIC

No data are available at the present time. Montana specific information has been requested from the Department of Transportation but will not be available for several weeks, perhaps months.

The 1977 and 1978 estimates assume an average passenger load of 260 with 75 percent non-resident. With 195 non-residents per day this results in 71,175 per year. In 1979 the southern route was closed midyear thus reducing traffic 25 percent or to 53,381. The current estimate (1980) is 35,588.

On the basis of the 1979 estimate (53,381) to obtain the 1979 visitor day total multiply by 4.77 which yields 254,627.

2.3 NON-RESIDENT BUS TRAFFIC

This industry is unregulated and no information is available concerning either regular routes or charters. The 1977 census of transportation indicates that 3.66 percent of car traffic is by bus. In 1979 there were 2,994,752 visitors in cars. Multiplying by .0366 yields 109,608.

This figure is consistent with the Planning Division count of buses at the border stations in 1979, i.e., 35.4 buses into the state each day with a 25 percent vacancy and 28.24 percent non-resident assumption as was the case with automobile traffic. The Division's data indicate 2.57 buses per 1,000 cars. In 1979 there were 27,549 cars counted per day at the border stations of which 13,775 were entering and 13,775 were leaving.

With 13,775 cars per day this results in 35.4 buses per day using the bus to car ratio. If 75 percent of the seats were full (31) and 28.24 percent of them were non-resident there would be:

$$35.4 \quad \times \quad 365 \quad \times \quad 9 \quad = \quad 116{,}295 \text{ passengers,}$$

given these assumptions. This helps to confirm the use of the National Census of Transportation data.

Starting with the 109,608 estimate multiply by 4.77 to determine visitor days which yields 522,830 visitor days per year.

2.4 NON-RESIDENT EXPENDITURES/INCOME/EMPLOYMENT

I) To estimate total travel expenditures for non-resident travelers add the total travel days for each mode of travel:

	Travel Days
Auto	14,284,967
Rail	254,627
Bus	522,830
Air	1,509,061
Total	16,571,485

Since each party spends $67.70 per day and there were 2.31 people per party; average visitor day expenditures were $29.31. Multiply average expenditures per visitor day by the number of visitors to determine total non-resident expenditures:

16,571,485 x $29.31 = $485,666,470

II) To convert the expenditure level to income multiply by .1775, the conversion factor derived from the Old West survey. Thus, we have:

485,666,470 x .1775 = $86,205,798 = income

Since 52.37 percent of all travel was for recreation or visiting friends and family, tourism income is equal to:

$86,205,798 x .5237 = $45,145,976

III) To convert to employment, divide by $8464, the 1979 average wage in trade and services (call Department of Labor, Research Division for update) which yields:

$$\text{Non-Resident Travel Employment} = \frac{\$86,205,798}{8464} = 10,185 \text{ jobs}$$

$$\text{Non-Resident Tourism Employment} = \frac{\$45,145,976}{\$8464} = 5,334 \text{ jobs}$$

2.5 RESIDENT EXPENDITURES/INCOME/EMPLOYMENT

I) The Old West survey did not include resident data. The U. S. Travel Data Center estimates for 1976 (inflated to 1979 dollars) suggest that non-resident expenditures per capita were approximately $500. The Colorado and Georgia surveys suggest a similar amount; i.e., within 10 percent.

To obtain resident travel expenditures multiply the 1980 population by $500 or:

784,000 x $500 = $392,000,000

II) To convert this figure to income, multiply by .219 the conversion factor used by the U. S. Travel Data Center in their New Mexico, Ohio and Missoula estimates. In other words travel income for residents =

$392 million x .219 = $85,848,000

According to the 1977 Census of Transportation, 30 percent of all travel was for pleasure and recreation. Assuming that holds in Montana we have:

85,848,000 x .30 = $25,754,400 in

income generated by resident tourism.

III) To convert to employment divide both the travel and tourism income level by the average wage in trade and services which was $8464 (Montana Department of Labor) in 1979. As an example consider the following:

$$\text{Resident Income (Travel)} = \frac{\$85{,}848{,}000}{\$8464} = 10{,}143 \text{ jobs}$$

$$\text{Resident Income (Tourism)} = \frac{\$25{,}754{,}400}{\$8464} = 3{,}043 \text{ jobs}$$

2.6 COUNTY ALLOCATION

To allocate the state control total to the county level begin with total travel employment which is the sum of resident and non-resident travel shown below:

Resident	=	10,143
Non-Resident	=	10,185
Total:		20,328

Next obtain the 2 digit employment data from the Department of Community Affairs, Research Division. Request the employment levels by county in the motel/hotel sector. Using Flathead County as an example perform the following calculation:

$$\frac{\text{Employment Flathead County in motels and hotels}}{\text{Montana employment in motels and hotels}} = \frac{691}{6786} = .1018273$$

Total travel employment in Flathead County is then equal to:

.1018273 x 20,328 = 2070 jobs

Repeat the procedure for other counties. To calculate income multiply by $8464 which yields:

2070 x $8464 = $17,520,480

2.7 TAXES

Based on the total income estimate for tourism, both resident and non-resident, multiply by .0395 to obtain the personal income tax contribution.

Resident Travel Income	=	$25,754,400
Non-Resident Travel Income	=	45,145,976
Total		$70,900,376

70,900,376 x .0395 = $ 2,800,565

The survey also indicated that non-residents consumed $80.36 worth of gasoline in 1979. With an average price of $1.00; 80 gallons were used. (This may be somewhat high since it would imply about 1300 miles traveled in 5 days) Assuming 80 gallons is correct, with an 8.5 cents tax per gallon (now 9 cents) the non-resident gas tax in 1979 totaled to:

3205 x 365 x 80 x .085 = $7,954,810

(Non-Resident cars per day) (days) (gallons) ($ per gal.)

Assuming 30 percent of all resident travel is for recreation (U. S. Travel Data Center) then 30 percent of the gas tax paid by residents was as a result of tourism. To calculate the amount first determine the total tax...call the Budget Office. Then subtract the above non-resident tax collection. In other words in FY 1979 the net total was $48,359,428 less $7,954,810 or $40,404,618. Thirty (30%) percent of this figure was for resident tourism which amounted to $12,121,385. Then simply add the resident and non-resident figures to determine the total gas tax collection, or:

$7,954,810 + $12,121,385 = $20,076,197 =

total gas tax paid for non-resident and resident tourism in 1979.

APPENDIX

Total Average Daily Traffic

Non-Resident Average Daily Traffic

County Estimates

Location		Total Average Daily Traffic					Percent Non-Resident
1 West Yellowstone		1981	1980	1979	1978	1977	1977-79 Average
A18	Q1		646	632	633	655	18.3
	Q2		1488	1557	1729	1495	35.1
	Q3			2844	3398	2965	64.5
	Q4			857	841	772	22.2
Average				1473	1650	1472	50.3
2 West Yellowstone							
A19	Q1		721	757	763	695	20.0
	Q2		1375	1457	1577	1542	26.7
	Q3			2617	2995	2826	56.5
	Q4			987	944	870	20.1
Average				1455	1570	1483	38.8
3 Gardiner							
A20	Q1		397	557	538	458	10.0
	Q2		831	928	1003	963	24.0
	Q3			1466	1794	1702	57.7
	Q4			535	674	521	15.8
Average				872	1002	911	35.8
4 Big Sky							
A43	Q1		1045	1043	1125	1065	19.9
	Q2		1220	1217	1338	1300	20.5
	Q3			1895	2154	2003	38.0
	Q4			1129	1054	1041	16.4
Average				1321	1418	1352	26.1
5 Lima							
A17	Q1		848	1068	1095	1057	30.6
	Q2		1163	1308	1492	1491	36.2
	Q3			1492	1724	1694	44.6
	Q4			1115	1117	1132	30.0
Average				1246	1357	1344	36.4
6 Kalispell							
A24	Q1		2932	2877	2794	2640	3.9
	Q2		3606	3807	3748	3500	7.0
	Q3			4465	4578	4028	24.8
	Q4			3745	3355	3081	5.8
Average				3724	3619	3312	11.6

Location		Total Average Daily Traffic					Percent Non-Resident
7 Browning		1981	1980	1979	1978	1977	1977-79 Average
A36	Q1		950	776	895	973	3.7
	Q2		1566	1656	1585	1708	8.6
	Q3			2286	2083	2201	37.0
	Q4			1291	1048	1079	5.0
Average				1502	1403	1490	17.8
8 Dupuyer							
A39	Q1		248	183	267	267	4.0
	Q2		507	498	539	542	14.9
	Q3			935	961	1003	49.7
	Q4			392	313	354	1.7
Average				502	520	542	27.6
9 Great Falls							
A9	Q1		4149	--	--	4623	6.5
	Q2		5245	--	--	5870	7.1
	Q3			6446	--	6652	24.9
	Q4			5214	--	5309	6.1
Average				--	--	5614	13.2
10 Wolf Creek							
A7	Q1		1585	1728	1791	1748	11.9
	Q2		2194	2327	2540	2299	23.5
	Q3			2526	2875	2792	31.4
	Q4			1865	1859	1831	11.7
Average				2112	2266	2168	21.1
11 Superior							
A30	Q1		2658	2592	2356	2342	21.5
	Q2		--	3633	3987	3643	28.2
	Q3			4476	5440	5115	56.5
	Q4			3077	3032	2767	24.4
Average				3445	3704	3467	36.3
12 Ravalli							
A8	Q1		2789	2885	2874	2873	4.7
	Q2		3982	4228	4249	4035	12.9
	Q3			5232	5581	5356	28.1
	Q4			3461	3398	3251	4.7
Average				3952	4026	3879	14.9

Location			Total Average Daily Traffic				Percent Non-Resident 1977-79 Average
7 Browning		1981	1980	1979	1978	1977	
A36	Q1		950	776	895	973	3.7
	Q2		1566	1656	1585	1708	8.6
	Q3			2286	2083	2201	37.0
	Q4			1291	1048	1079	5.0
Average				1502	1403	1490	17.8
8 Dupuyer							
A39	Q1		248	183	267	267	4.0
	Q2		507	498	539	542	14.9
	Q3			935	961	1003	49.7
	Q4			392	313	354	1.7
Average				502	520	542	27.6
9 Great Falls							
A9	Q1		4149	--	--	4623	6.5
	Q2		5245	--	--	5870	7.1
	Q3			6446	--	6652	24.9
	Q4			5214	--	5309	6.1
Average				--	--	5614	13.2
10 Wolf Creek							
A7	Q1		1585	1728	1791	1748	11.9
	Q2		2194	2327	2540	2299	23.5
	Q3			2526	2875	2792	31.4
	Q4			1865	1859	1831	11.7
Average				2112	2266	2168	21.1
11 Superior							
A30	Q1		2658	2592	2356	2342	21.5
	Q2		--	3633	3987	3643	28.2
	Q3			4476	5440	5115	56.5
	Q4			3077	3032	2767	24.4
Average				3445	3704	3467	36.3
12 Ravalli							
A8	Q1		2789	2885	2874	2873	4.7
	Q2		3982	4228	4249	4035	12.9
	Q3			5232	5581	5356	28.1
	Q4			3461	3398	3251	4.7
Average				3952	4026	3879	14.9

Location			Average Total Daily Traffic				Percent Non-Resident
13 Missoula		1981	1980	1979	1978	1977	1977-79 Average
A1	Q1		3480	3941	3765	3720	11.4
	Q2		4909	5552	5685	5736	25.7
	Q3			6630	7570	7466	44.4
	Q4			4362	4621	4161	13.4
Average				5121	5410	5271	27.0
14 Butte							
A16	Q1		6520	7162	7408	6437	9.2
	Q2		8736	9374	9961	9262	13.6
	Q3			11064	11998	11965	32.9
	Q4			8201	7951	7983	10.3
Average				8950	9330	8912	18.2
15 Livingston							
A41	Q1		2917	3039	3058	2921	15.9
	Q2		4193	4337	4778	4450	22.2
	Q3			5153	5661	5714	45.2
	Q4			3741	3688	3141	16.1
Average				4068	4296	4057	27.4
16 Billings							
A11	Q1		8649	9633	8967	8669	8.3
	Q2		10574	11848	11882	10906	16.9
	Q3			12734	14023	13229	24.7
	Q4			10235	10296	9780	10.6
Average				11113	11291	10646	16.0
17 Miles City							
A31	Q1		2063	2033	1813	1937	14.7
	Q2		3052	3022	3057	2901	21.2
	Q3			3732	3623	3576	40.7
	Q4			2603	2277	2146	19.4
Average				2848	2693	2640	26.2
18 Wibaux							
A25	Q1		1407	1485	1387	1184	28.9
	Q2		2073	2207	2341	2232	35.4
	Q3			2731	3219	3004	64.8
	Q4			1784	1819	1611	33.8
Average				2052	2192	2008	44.5

Location			Average Total Daily Traffic				Percent Non-Resident
19 Wolf Point		1981	1980	1979	1978	1977	1977-79 Average
A10	Q1		1718	1792	1663	1710	6.5
	Q2		2166	2103	2639	2174	10.4
	Q3			2166	2724	2533	24.0
	Q4			1925	1939	1833	9.8
Average				1997	2241	2063	13.5
20 Lewistown							
A12	Q1		1278	1426	1456	1316	3.8
	Q2		1717	1873	2157	1773	8.0
	Q3			2107	2161	1974	16.8
	Q4			1702	1867	1561	2.6
Average				1777	1910	1656	14.3
21 East Helena							
A2	Q1		1944	2120	2669	2847	5.0
	Q2		2729	3035	3836	4145	14.0
	Q3			3361	4396	4475	27.4
	Q4			2414	--	2990	8.2
Average				2733	--	3614	16.1
22 Fred Robinson							
A27	Q1		267	239	215	257	5.2
	Q2		435	407	396	376	4.4
	Q3			486	455	427	18.0
	Q4			389	324	335	3.0
Average				380	348	349	8.4
23 Hardin							
M59	Q1			--	--	--	15.0
	Q2			--	--	--	19.3
	Q3			--	--	--	42.9
	Q4			--	--	--	16.0
Average				4901	4336	4205	(27.6)
24 Rockvale							
M54	Q1			--	--	--	18.2
	Q2			--	--	--	20.0
	Q3			--	--	--	32.6
	Q4			--	--	--	18.0
Average				4695	4397	4684	(26.3)

Location		Total Average Daily Traffic					Percent Non-Resident
25 Customs		1981	1980	1979	1978	1977	1977-79 Average
n/a	Q1			--	--	--	20.5
	Q2			--	--	--	16.0
	Q3			--	--	--	39.4
	Q4			--	--	--	15.7
Average				1938	2314	2418	(27.2)

Includes: Chief Mountain, Piegan, Raymond, Roosville, and Sweetgrass

26 Idaho Border							
M23	Q1			--	--	--	8.6
	Q2			--	--	--	15.8
	Q3			--	--	--	30.9
	Q4			--	--	--	10.5
Average				1206	1164	1021	(19.5)

Location		Non-Resident Average Daily Traffic				
1 West Yellowstone		1981	1980	1979	1978	1977
A18	Q1		118	116	116	120
	Q2		522	547	607	525
	Q3			1834	2192	1912
	Q4			190	187	171
Average				672	956	682
2 West Yellowstone						
A19	Q1		144	151	153	139
	Q2		367	389	421	412
	Q3			1479	1692	1597
	Q4			198	190	175
Average				554	614	581
3 Gardiner						
A20	Q1		40	56	54	46
	Q2		199	223	241	231
	Q3			846	1035	982
	Q4			85	106	82
Average				303	359	335

Location		Non-Resident Average Daily Traffic				
4 Big Sky		1981	1980	1979	1978	1977
A43	Q1		208	208	224	212
	Q2		250	249	274	267
	Q3			720	819	761
	Q4			185	173	171
Average				341	373	352
5 Lima						
A17	Q1		259	327	336	323
	Q2		421	473	540	540
	Q3			665	769	756
	Q4			335	335	340
Average				450	495	490
6 Kalispell						
A24	Q1		114	112	109	103
	Q2		252	266	262	245
	Q3			1107	1135	999
	Q4			217	195	179
Average				426	425	382
7 Browning						
A36	Q1		35	29	33	36
	Q2		135	142	136	147
	Q3			846	771	814
	Q4			65	52	54
Average				271	248	263
8 Dupuyer						
A39	Q1		10	7	11	11
	Q2		76	74	80	81
	Q3			465	478	498
	Q4			7	5	6
Average				138	144	149
9 Great Falls						
A9	Q1		270	--	--	300
	Q2		372	--	--	417
	Q3			1605	--	1656
	Q4			318	--	324
Average				--	--	674

Location		Non-Resident Average Daily Traffic				
		1981	1980	1979	1978	1977
10 Wolf Creek						
A7	Q1		189	206	213	208
	Q2		516	547	597	540
	Q3			793	903	877
	Q4			218	218	214
Average				441	483	460
11 Superior						
A30	Q1		571	557	507	504
	Q2		--	1025	1124	1027
	Q3			2529	3074	2890
	Q4			751	740	675
Average				1216	1361	1274
12 Ravalli						
A8	Q1		131	136	135	135
	Q2		514	545	548	521
	Q3			1470	1568	1505
	Q4			163	160	153
Average				579	603	579
13 Missoula						
A1	Q1		397	449	429	424
	Q2		1262	1427	1461	1474
	Q3			2944	3361	3315
	Q4			585	619	558
Average				1351	1468	1443
14 Butte						
A16	Q1		600	659	682	592
	Q2		1188	1275	1355	1260
	Q3			3640	3947	3936
	Q4			845	819	822
Average				1605	1701	1653
15 Livingston						
A41	Q1		464	483	486	464
	Q2		931	963	1061	988
	Q3			2329	2559	2583
	Q4			602	594	506
Average				1094	1175	1135

Location		Non-Resident Average Daily Traffic				
16 Billings		1981	1980	1979	1978	1977
A11	Q1		718	800	744	720
	Q2		1787	2002	2008	1843
	Q3			3145	3464	3268
	Q4			1085	1091	1037
Average				1758	1827	1717
17 Miles City						
A31	Q1		303	299	267	285
	Q2		647	641	648	615
	Q3			1519	1475	1455
	Q4			505	442	416
Average				741	708	693
18 Wibaux						
A25	Q1		407	429	401	342
	Q2		734	781	829	790
	Q3			1770	2086	1947
	Q4			603	615	545
Average				896	983	906
19 Wolf Point						
A10	Q1		112	116	108	111
	Q2		225	219	274	226
	Q3			520	654	608
	Q4			189	190	180
Average				261	307	281
20 Lewistown						
A12	Q1		49	54	55	50
	Q2		137	150	173	142
	Q3			354	363	332
	Q4			44	49	41
Average				151	160	141
21 East Helena						
A2	Q1		97	106	133	142
	Q2		382	425	537	580
	Q3			921	1205	1226
	Q4			198	--	245
Average				413	--	548

Location		Non-Resident Average Daily Traffic				
22 Fred Robinson		1981	1980	1979	1978	1977
A27	Q1		14	12	11	13
	Q2		19	18	17	17
	Q3			87	82	77
	Q4			12	10	10
Average				32	30	29
23 Hardin						
M 59	Q1			--	--	--
	Q2			--	--	--
	Q3			--	--	--
	Q4			--	--	--
Average				1353	1197	1160
24 Rockvale						
M 54	Q1			--	--	--
	Q2			--	--	--
	Q3			--	--	--
	Q4			--	--	--
Average				1235	1156	1232
25 Customs						
	Q1			--	--	--
	Q2			--	--	--
	Q3			--	--	--
	Q4			--	--	--
Average				527	629	658
26 Idaho Border						
	Q1			--	--	--
	Q2			--	--	--
	Q3			--	--	--
	Q4			--	--	--
Average				235	227	199

COUNTY ESTIMATES

	1979 Employment	Percent of Total Employment	1979 Income
1 Beaverhead	303	8.4%	$2,564,592
2 Big Horn	126	2.4%	1,066,464
3 Blaine	15	0.5%	126,960
4 Broadwater	24	1.7%	203,136
5 Carbon	102	3.1%	863,328
6 Carter	9	1.1%	76,176
7 Cascade	1704	4.0%	14,422,656
8 Choteau	18	0.6%	152,352
9 Custer	312	4.6%	2,640,768
10 Daniels	63	4.0%	533,232
11 Dawson	542	8.7%	4,587,488
12 Deer Lodge	18	0.3%	152,352
13 Fallon	60	2.8%	507,840
14 Fergus	303	5.1%	2,564,592
15 Flathead	2070	9.2%	17,520,480
16 Gallatin	2582	13.7%	21,854,048
17 Garfield	--	--	--
18 Glacier	1066	18.2%	9,022,624
19 Golden Valley	--	--	--
20 Granite	30	2.6%	253,920
21 Hill	344	3.8%	2,911,616
22 Jefferson	84	3.9%	710,976
23 Judith Basin	6	0.5%	50,784
24 Lake	117	1.8%	990,288
25 Lewis and Clark	1360	5.9%	11,511,040
26 Liberty	21	1.8%	177,744
27 Lincoln	261	3.9%	2,209,104
28 McCone	--	--	--
29 Madison	243	10.2%	2,056,752
30 Meagher	27	2.7%	228,528
31 Mineral	42	3.0%	355,488
32 Missoula	1620	4.5%	13,711,680
33 Musselshell	--	--	--
34 Park	638	10.7%	5,400,032
35 Petroleum	--	--	--
36 Phillips	225	9.4%	1,904,400
37 Pondera	45	1.4%	380,880
38 Powder River	27	2.1%	228,528
39 Powell	105	3.3%	888,720
40 Prairie	3	0.3%	25,392

	1979 Employment	Percent of Total Employment	1979 Income
41 Ravalli	156	2.3%	1,320,384
42 Richland	323	5.5%	2,733,872
43 Roosevelt	264	5.0%	2,234,496
44 Rosebud	99	2.3%	837,936
45 Sanders	24	0.6%	203,136
46 Sheridan	90	3.3%	761,760
47 Silver Bow	1309	7.7%	11,079,376
48 Stillwater	--	--	--
49 Sweet Grass	54	3.5%	457,056
50 Teton	21	7.3%	177,744
51 Toole	114	3.6%	964,896
52 Treasure	--	--	--
53 Valley	195	3.7%	1,650,480
54 Wheatland	99	8.1%	837,936
55 Wibaux	51	7.6%	431,664
56 Yellowstone	3026	5.3%	25,612,064

AVERAGE DAILY NON-RESIDENT TRAFFIC

	CY 1979	CY 1978	CY 1977	FY 1980	FY 1979	FY 1978	Percent Change FY 1978-80
1 West Yellowstone	569	862	710	564	686	731	-22.8%
2 West Yellowstone	469	554	605	547	546	610	-10.3%
3 Gardiner	256	324	349	248	320	354	-29.9%
4 Big Sky	289	336	367	288	327	372	-22.6%
5 Lima	381	447	510	355	429	514	-30.9%
6 Kalispell	361	383	398	358	385	403	-11.2%
7 Browning	229	224	274	229	224	270	-15.2%
8 Dupuyer	117	130	155	118	127	155	-23.9%
9 Great Falls	n/a	n/a	702	543	n/a	n/a	n/a
10 Wolf Creek	373	436	479	363	423	495	-26.7%
11 Superior	1029	1228	1327	n/a	1217	1353	n/a
12 Ravalli	490	544	603	482	543	610	-21.0%
13 Missoula	1143	1324	1503	1098	1321	1501	-26.8%
14 Butte	1358	1534	1722	1327	1511	1769	-25.0%
15 Livingston	926	1060	1182	915	1037	1207	-24.2%
16 Billings	1488	1648	1788	1425	1659	1838	-22.5%
17 Miles City	627	639	722	629	644	725	-13.2%
18 Wibaux	758	887	944	743	882	969	-23.3%
19 Wolf Point	221	277	293	221	266	305	-27.5%
20 Lewistown	128	144	147	124	139	157	-21.0%
21 East Helena	350	n/a	570	338	n/a	558	-39.4%
22 Fred Robinson	27	27	30	28	28	30	- 6.7%
23 Hardin	1145	1080	1208	n/a	n/a	n/a	n/a
24 Rockvale	1045	1043	1283	n/a	n/a	n/a	n/a
25 Customs	446	567	685	n/a	n/a	n/a	n/a
26 Idaho	199	205	207	n/a	n/a	n/a	n/a
							-22.2%